

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	("5535593").PN.	USPAT; USOCR	OR	OFF	2006/06/22 13:04
S2	1	("5245830").PN.	USPAT; USOCR	OR	OFF	2006/06/14 11:06
S3	1273	(62/6).CCLS.	USPAT; USOCR	OR	OFF	2006/06/20 11:31
S4	12	("5156005"   "5167124"   "5245830"). PN. OR ("5535593").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/14 15:04
S5	1273	(62/6).CCLS.	USPAT; USOCR	OR	OFF	2006/06/16 10:30
S6	258	S5 free piston	USPAT	AND	ON	2006/06/15 11:58
S7	684	cryocooler	USPAT	AND	ON	2006/06/15 11:58
S8	51	S7 S6	USPAT	AND	ON	2006/06/16 12:25
S9	28	("3802211"   "4373663"   "4417448"   "4534176"   "4543793"   "4545209"   "4642547"   "4664685"   "4675563"   "4761960"   "4783968"   "4925089"). PN. OR ("5018357").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/15 12:28
S10	688	(62/228.1).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/15 12:28
S11	428	(60/520).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/15 12:29
S13	1273	(62/6).CCLS.	USPAT; USOCR	OR	OFF	2006/06/16 10:30
S14	124728	free piston	US-PGPUB; USPAT	AND	ON	2006/06/16 10:31
S15	269094	temperature with control	US-PGPUB; USPAT	AND	ON	2006/06/16 10:31
S16	48	S13 S14 S15	US-PGPUB; USPAT	AND	ON	2006/06/16 10:31
S17	1273	(62/6).CCLS.	USPAT; USOCR	OR	OFF	2006/06/16 12:25
S18	258	S17 free piston	USPAT	AND	ON	2006/06/16 12:25
S19	684	cryocooler	USPAT	AND	ON	2006/06/16 12:25
S20	51	S19 S18	USPAT	AND	ON	2006/06/16 12:25
S21	269094	temperature with control	US-PGPUB; USPAT	AND	ON	2006/06/16 12:25
S22	12	S20 S21	USPAT	AND	ON	2006/06/16 12:27

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S23	2	("3220201").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/16 12:29
S24	25	("4417448"   "4620143"   "4628475"). PN. OR ("5156005").URPN.	US-PGPUB; USPAT; USOCR	AND	ON	2006/06/16 12:31
S25	12	("5156005"   "5167124"   "5245830"). PN. OR ("5535593").URPN.	US-PGPUB; USPAT; USOCR	AND	ON	2006/06/16 12:36
S26	1273	(62/6).CCLS.	USPAT; USOCR	OR	OFF	2006/06/20 16:29
S27	124728	free piston	US-PGPUB; USPAT	AND	ON	2006/06/16 15:40
S28	269094	temperature with control	US-PGPUB; USPAT	AND	ON	2006/06/16 15:40
S29	48	S26 S27 S28	US-PGPUB; USPAT	AND	ON	2006/06/16 15:41
S33	87	free piston temperature with control	EPO; JPO; DERWENT	AND	ON	2006/06/16 15:43
S34	1273	(62/6).CCLS.	USPAT; USOCR	OR	OFF	2006/06/19 16:00
S35	258	S34 free piston	USPAT	AND	ON	2006/06/19 16:00
S36	102	S35 gas bearing	US-PGPUB; USPAT	AND	ON	2006/06/19 16:01
S37	22	S36 lubrication	US-PGPUB; USPAT	AND	ON	2006/06/19 16:02
S38	1276	(62/6).CCLS.	USPAT; USOCR	OR	OFF	2006/06/20 11:34
S42	1	S38 cold near heater	US-PGPUB; USPAT	AND	ON	2006/06/20 13:01
S43	25	("4417448"   "4620143"   "4628475"). PN. OR ("5156005").URPN.	US-PGPUB; USPAT; USOCR	AND	ON	2006/06/20 15:59
S45	50068	refrigeration	US-PGPUB; USPAT	AND	ON	2006/06/20 16:29
S46	212702	heater	US-PGPUB; USPAT	AND	ON	2006/06/20 16:30
S47	1825777	temperature	US-PGPUB; USPAT	AND	ON	2006/06/20 16:30
S48	2653528	control	US-PGPUB; USPAT	AND	ON	2006/06/20 16:30
S49	7176	S45 S46 S47 S48	US-PGPUB; USPAT	AND	ON	2006/06/20 16:30
S50	24864	cryogenic	US-PGPUB; USPAT	AND	ON	2006/06/20 16:32

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S51	914	S49 S50	US-PGPUB; USPAT	AND	ON	2006/06/20 16:31
S53	233	pulse tube S51	US-PGPUB; USPAT	AND	ON	2006/06/20 16:33
S54	1276	(62/6).CCLS.	USPAT; USOCR	OR	OFF	2006/06/22 09:17
S55	258	S54 free piston	USPAT	AND	ON	2006/06/22 09:17
S56	102	S55 gas bearing	US-PGPUB; USPAT	AND	ON	2006/06/22 09:17
S57	62	S56 control	US-PGPUB; USPAT	AND	ON	2006/06/22 09:48
S58	41	S55 gas with bearing	US-PGPUB; USPAT	AND	ON	2006/06/22 09:49
S59	23	S58 control	US-PGPUB; USPAT	AND	ON	2006/06/22 09:49
S60	1	("4408456").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/22 11:33
S61	1	("4389849").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/22 11:33
S62	253	(62/192).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/22 12:43
S65	19979	gas with bearing	US-PGPUB; USPAT	AND	ON	2006/06/22 12:46
S66	3	S65 S62	US-PGPUB; USPAT	AND	ON	2006/06/22 12:48
S67	225	(62/193).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/22 13:01
S70	487	(62/226).CCLS.	USPAT; USOCR	OR	OFF	2006/06/22 13:04
S73	4810	stirling	US-PGPUB; USPAT	AND	ON	2006/06/22 13:07
S74	2	S73 S70	US-PGPUB; USPAT	AND	ON	2006/06/22 13:20
S76	689	(62/228.1).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/22 13:21
S78	11	S76 S73	US-PGPUB; USPAT	AND	ON	2006/06/22 13:22
S79	5	S76 free with piston	US-PGPUB; USPAT	AND	ON	2006/06/22 13:22

## EAST Search History

S80	0	S70 free with piston	US-PGPUB; USPAT	AND	ON	2006/06/22 13:23
S81	14	S70 piston control	US-PGPUB; USPAT	AND	ON	2006/06/22 13:23
S82	81	S76 piston control	US-PGPUB; USPAT	AND	ON	2006/06/22 13:23
S83	34	("3610782"   "3916271"   "4027211"   "4567726"   "4706470"   "4893479"). PN. OR ("5032772").URPN.	US-PGPUB; USPAT; USOCR	AND	ON	2006/06/22 13:23
S84	2	((("3991586") or ("4417448")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/22 15:44
S85	1276	(62/6).CCLS.	USPAT; USOCR	OR	OFF	2006/06/23 14:59
S87	127	S85 heater	US-PGPUB; USPAT	AND	ON	2006/06/23 15:00
S88	83	S87 control	US-PGPUB; USPAT	AND	ON	2006/06/23 15:24
S89	40	S88 cryogenic	US-PGPUB; USPAT	AND	ON	2006/06/23 15:25
S90	1	("3788088").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/06/30 14:07
S91	1276	(62/6).CCLS.	USPAT; USOCR	OR	OFF	2006/07/05 08:04
S92	258	S91 free piston	USPAT	AND	ON	2006/07/05 08:04
S93	684	cryocooler	USPAT	AND	ON	2006/07/05 08:04
S94	51	S93 S92	USPAT	AND	ON	2006/07/05 08:04
S95	20	limit S94	US-PGPUB; USPAT	AND	ON	2006/07/05 08:19
S96	29	design S94	US-PGPUB; USPAT	AND	ON	2006/07/05 08:19